

# The SyMoGIH project

Sharing and publishing historical and geographical data in a standard, open and interoperable way

## Historians and the digital 'turn' :

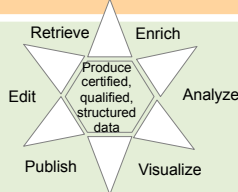
Pôle Histoire Numérique de LARHRA is a **mixed team** of researchers and engineers that incite use of **digital tools** for research in history

### Missions :

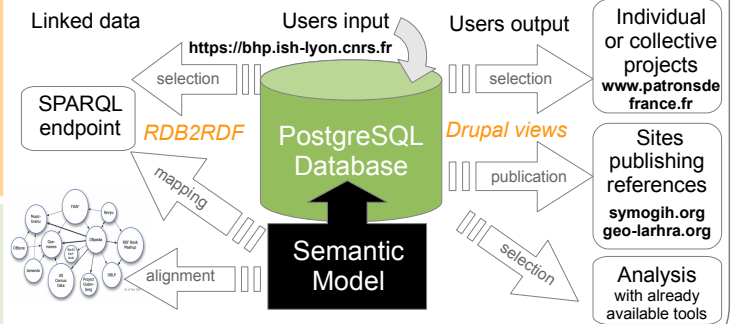
- Help researchers to better structure their data
- Build a collaborative system, with a generic semantic model to produce reusable primary data (see ref. 1,2,3)
- Guarantee individual and project inputs / outputs
- **Publish and share our historical and geographical resources using semantic web technologies**

## Life of historical information

These data can concern prosopography works, networks study of (collective) actors with a common environment, at a certain period of time (intellectual, industrial, institutional, religious)



Open, modular, collaborative platform for storing, analyzing and publishing historical data and texts



## Participate to the Linked Data

### 1. Give access to our objects and their description (knowledge units)

Only applied to selected data for publication

Dereferencing principle to present them at symogih.org

Who is that Kepler ?

Example of a Knowledge Unit

SPARQL endpoint (D2RQ) to query them

Query retrieving all available knowledge units about this actor

```
SELECT ?date ?libelle ?type
WHERE
{
  ?role symogih:associatesObject db:Actr195 .
  ?role symogih:belongsToKnowledgeUnit ?info .
  ?info symogih:knowledgeUnitStandardDate ?date .
  ?info symogih:knowledgeUnitLabel ?libelle .
  ?info symogih:hasKnowledgeUnitType ?type
}
ORDER BY ?date
```

What do we know about Kepler ?

### 2. Publish our semantic model

- Ontology production : conversion of the relational data model using RDF mapping (RDB2RDF)
- An upper level ontology : the domain specific definitions of properties are treated as instances of the generic model

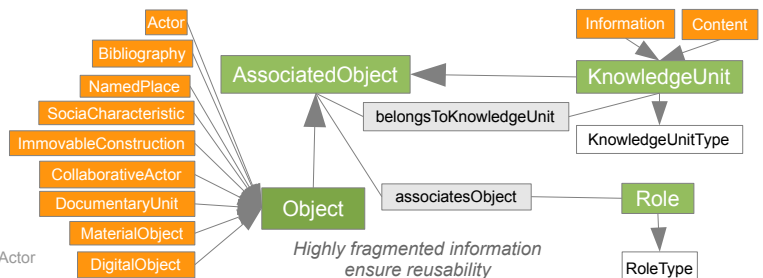
Any type of *information* can be added as instance of the generic model, more than 140 presently :

- Fonction (exercice de la)
- Formation (suivre une)
- Candidature (postuler)
- Vente
- Adopter une doctrine

Kepler is a kind of what ?

URI example : <http://symogih.org/ontology/Actor>

Same for roles, linking objects to knowledge units



Highly fragmented information ensure reusability

### 3. Cross information from the semantic web

- For instance, display data coming from outside open repositories (transformed into CSV or TSV format) using the temporal dynamic atlas of our geo-larhra.org website

Data from Bibliotheksverbund Bayern at <http://lod.b3kat.de/sparql> : number of books published in Italian towns from 1815 to 1914 (see ref. 4)

## Results

Primary data is provided online in a standard, open and interoperable way

- Each act of producing data will be valued, access is given to the community not only to the researcher's final published work but foremost to the primary data on which it is based.
- We seek collaborations with other projects producing historical data (e.g. Héloïse...), and interoperability, alignment with other ontologies : CIDOC-CRM, IdRef, DBPedia, ...

### References :

- (1) Modelling and sharing geo-historical information : The SyMoGIH Project, DH Hamburg 2012
- (2) Francesco Beretta / Pierre Vernus, "Le projet SyMoGIH et la modélisation de l'information : une opération scientifique au service de l'histoire", Les Carnets du LARHRA 1(2012), 81-107 (cf. HalSHS).
- (3) Charlotte Butez, Naissance et conception d'un système d'information géo-historique collaboratif, Géomatique Expert, n° 91, Mars-Avril 2013, pp. 30-35.
- (4) Exemple d'application : conception de l'atlas historique numérique et analyses de données attributaires de l'Italie du Risorgimento Géomatique Expert, n° 92, Mai-Juin 2013, pp. 48-54.
- (5) Héloïse (European Workshop on Historical Academic Databases, <http://heloise.hypotheses.org/>)



Francesco Beretta ([francesco.beretta@ish-cnrs.fr](mailto:francesco.beretta@ish-cnrs.fr)), Djamel Ferhod ([djamel.ferhod@ish-cnrs.fr](mailto:djamel.ferhod@ish-cnrs.fr)), Séverine Gedzelman ([severine.gedzelman@ens-lyon.fr](mailto:severine.gedzelman@ens-lyon.fr)), in collaboration with Le Pôle Histoire Numérique

LARHRA - UMR CNRS 5190  
Laboratoire de Recherche Historique Rhône-Alpes

